Vertical Farming - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts 2018 - 2029

Market Report | 2024-02-17 | 172 pages | Mordor Intelligence

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Report description:

The Vertical Farming Market size is estimated at USD 14.23 billion in 2024, and is expected to reach USD 23.23 billion by 2029, growing at a CAGR of 10.30% during the forecast period (2024-2029).

Key Highlights
-The increased demand for organic products among consumers, fueled by the improved standard of living and higher disposable income paved the way for the development of vertical farming, wherein organic farming is practiced widely. People are growing the necessary crops in their own houses on a small scale to have food free from pests. An increase in health consciousness and consumption of residue-free food has paved the way for the usage of advanced techniques, like hydroponics, aeroponics, etc.
-Microgreens are among the crops cultivated by vertical farming methods and are a rich source of polyphenols, a class of antioxidants that helps to lower the risk of diseases, such as heart disease, Alzheimer's disease, diabetes, and certain cancers.
-With the growing innovation in agricultural technology, the industry is growing rapidly, attracting individual as well as commercial attention. Many commercial growers are adopting high capital expenditure technologies, such as advanced hydroponic systems and electronic traceability systems. Additionally, growers are heavily investing in LEDs and other innovative lighting products to reduce their exposure to associated risks by carefully monitoring and investing in new technologies.
-The need for food supply against the explosive population is expected to increase by 2050, which has catalyzed the growth of the vertical farming market. Funds are being invested in the market to bring developments and technological advancements to this specific sector. The control over the growth of plants and the minimum resource requirements in terms of space, water, etc. is making this technique more popular as the global food crunch is around the corner in many parts of the world. The increased need to meet the demand of the growing population and limited and scarce agricultural land and water are anticipated to drive the global market for vertical farming during the forecast period.

Vertical Farming Market Trends

Shrinking Agricultural Land Area

Increasing population trends, urbanization, decreasing water supply, and continuing climate change contributed to the declining arable land stocks per person. Due to the continuous decline in per capita farmland availability, a possible way out is the practice of increasing productivity. Thus, there is a need to increase yield from the available land, which can be achieved through vertical farming.

According to the United States Department of Agriculture (USDA), farmers in the United States voluntarily removed land from crop production because of poor growing conditions or constrained irrigation water supplies. Especially with the demand for organic and sustainable products increasing the drop in yield is affecting the margin of the farmers. Gradual declines have occurred in cropland, while grazed forestland decreased more rapidly. According to the USDA report area of land on farms has been decreasing year by year, in 2017 the area was reported to be 364.36 million hectares and in 2021 it dropped to 362.31 million hectares.

In the case of China according to FAO data, there has been no increase in the arable land but a slight negligible decline in the land area from 2017 to 2020, where it is reported to be 119.47 million ha. The increasing population in China created a food demand which in turn pushes the farmers toward vertical farming techniques. With the aid of technology, farmers are registering higher yields while using lesser resources.

Thus, vertical farming, which involves greater use of technology and automation for land-use optimization, exemplifies solutions for improving future food production.

North America Dominates the Market

The United States market dominated the North American region. Growing concerns about food security and nutrition are expected to open several novel opportunities for the industry to prosper. The United States is anticipated to invest a significant share in facilitating the ecosystem for future foods. As more consumer insights develop toward 'fresh-from-farm-to-table,' the availability of freshly harvested vegetables across retail outlets is expected to increase in the country (which is also the pioneer in adopting this concept). The onset of urban population dwellings across cities, such as New York, Chicago, and Milwaukee propelled the environment for vertical farming with activities, such as revamping derailed vacant warehouses, derelict buildings, and high rises, which has, in turn, led to an increase in the production of fresh grown foods altogether.

There are new aeroponic systems that are set to begin and are under construction. For instance, earlier this year, in 2022, Brooklyn-based Upward Farms unveiled its plans to launch a massive 250,000-square-foot vertical farm located in Northeastern Pennsylvania's Luzerne County. It is set for an early 2023 opening and the farm will specifically focus on microgreens.

Furthermore, according to the March 2020 report by Ontario's Greenbelt Foundation, at least four vertical farms are operating in B.C., at least two in Alberta, six in Ontario, and one in Nova Scotia. Major players in the Canadian vertical farm industry are Canada's Modular Farms, based in Toronto, and Nova Scotia's TruLeaf, leading the trail, followed by startups, such as Ecobain Gardens, growing rapidly in terms of the area used, by engaging the fresh herb mix concept. The main hydroponic systems used in Mexico are the drip irrigation and Nutrient Film Technique system. The maximum number of per-acreage hydroponic installations was recorded in the Distrito Federal province of Mexico. Thus, the expansion of companies to the vertical farming market through increased investment is anticipated to drive the growth of the market studied during the forecast period.

The market is highly fragmented, with major revenue-generating companies such as Aerofarms, InFarm, Jones Food Company, and Swegreen, among others, cornering just some part of the market share, while the rest of the market is shared among numerous players, such as Sky Greens Pte Ltd, Agricool, Future Crops, V-Farm, etc.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

Table of Contents:

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